Cummins Engine Data Report

Unleashing
the Power of
Cummins

Engine Data Report

                        CURRENT JOB IMAGE REPORT
            Cummins Engine Company INSITE Professional - CELECT Plus

Job Number: 0-010214-142536 (Image Number: 2)
Job Date: Wednesday, February 14, 2001
Vehicle Unit Number:
Customer:
Description: **Cummins**

                            System ID/Dataplate

                    Advertised Power: 280   hp
            RPM at Advertised Power: 2100 rpm
                     Governed Speed: 2100 rpm
                        Peak Torque: 900   ft·lb
                RPM at Peak Torque: 1200 rpm
          Critical Parts List (CPL):   2425
                    Fuel Code (FC):   0XG29
                Percent Torque Rise: 0
                        Engine Make: CMMNS
                       Engine Model: M11-280E+
              Engine Serial Number: 34959927
                 Engine Build Date: 50099
                      Vehicle Make: NA
                     Vehicle Model: None
            Vehicle Serial Number:
               Vehicle Build Date:
                     Customer Name:
                 Customer Location:
             Customer Unit Number:
                          ECM Make: CMMNS
                  ECM Part Number: 3408300
                ECM Serial Number: 59643
                          ECM CODE: C20313.09
                 ECM Voltage High: 0   V
                  ECM Voltage Low: 0   V
          Eng. Cal Time/Date Stamp: 5/10/99 10:38:42 AM
                        SC Option: 20003
                        DO Option: 2088
          Calibration Voltage High: 0   V
           Calibration Voltage Low: 0   V
                    Other Options:

CURRENT JOB IMAGE REPORT
Cummins Engine Company INSITE Professional - CELECT Plus

Job Number: 0-010214-142536 (Image Number: 2)
Job Date: Wednesday, February 14, 2001
Vehicle Unit Number:
Customer:
Description:

Features and Parameters

Engine Serial Number:	34959927
Engine Build Date:	50099
Vehicle Make:	NA
Vehicle Model:	None
Vehicle Serial Number:	
Vehicle Build Date:	
Customer Name:	
Customer Location:	
Customer Unit Number:	
Automotive Governor OFF:	Disabled
Progressive Shift:	Disabled
Low Idle Speed Adjust Sw:	Disabled
Idle Shutdown:	Enabled
Idle Shutdown in PTO:	Disabled
Idle Shutdown Override:	No
PTO/ISC:	Enabled
PTO/Remote PTO Enabled:	Enabled
Brake/Clutch PTO Disable:	Disabled
Cruise Control:	Disabled
Auto Eng Brakes in CC:	Disabled
PTO Alternate Table Enable:	Disabled
Gear Down Protection Enable:	Disabled
Engine Protection Shutdown:	Disabled
Vehicle Speed Sensor Enable:	Enabled
Maintenance Monitor:	Disabled
Fan On During Engine Braking:	Disabled
A/C Press. Sw. Controls Fan:	Disabled
Fan Accessory Switch Input:	Disabled
VSS Anti-Tampering:	Disabled
Fan Clutch 2 Enable:	Disabled
Automatic Transmission:	No
On-Highway Type Application:	On/Off Highway
Eng Brake/Road Speed Interaction:	Disabled
Pedal Activated Engine Braking:	Disabled
Ambient Temperature Idle Shutdown Override:	Disabled
Fan/Air Cond./Road Speed Feature:	Disabled
Max Vehicle Speed - Top Gear:	72 mph
Max Gear Down Speed - Heavy:	0 mph
Max Gear Down Speed - Light:	0 mph
Max Engine Speed w/o VSS:	2500 rpm
RSG Lower Droop Width:	2 mph
RSG Upper Droop Width:	0 mph
Low Idle Speed:	650 rpm
Hot AAT For Idle Shutdown:	0.0 °F
Intermediate AAT For Idle Shutdown:	0.0 °F
Cold AAT For Idle Shutdown:	0.0 °F
Time Before Idle Shutdown:	5 min

                       CURRENT JOB IMAGE REPORT
            Cummins Engine Company INSITE Professional - CELECT Plus

Job Number: 0-010214-142536 (Image Number: 2)
Job Date: Wednesday, February 14, 2001
Vehicle Unit Number:
Customer:
Description:

```
            Progr. Shift-Max Engine Speed:   0   rpm
          Progr. Shift-Road Spd at Max RPM:   0   mph
            Min Fan on Time for A/C Prs Sw:   0   sec
            Min Vehicle Speed for Eng Brake:  0   mph
                 Vehicle Speed Sensor Type:   Electrical
                           Rear Axle Ratio:   5.38
                  Tire Revs per Distance:     482   per mile
          # of Trans Tailshaft Gr Teeth:       16
                                  Pulses:      30000   per mile
              Top Gear Transmission Ratio:    1.00
             Gear Down Transmission Ratio:    1.42
                 Max Cruise Control Speed:     0   mph
                      CC Lower Droop Width:     0   mph
                      CC Upper Droop Width:     0   mph
                           CC Switch Usage:    Set/Coast
              Number of Engine Brake Sets:     0
                 Downhill CC Brake Level 1:     0   mph
                 Downhill CC Brake Level 2:     0   mph
                 Downhill CC Brake Level 3:     0   mph
                       Maximum PTO Speed:     1000   rpm
                       Minimum PTO Speed:      650   rpm
                     PTO Engine SET Speed:    1000   rpm
                         PTO Resume Speed:    1000   rpm
                   Remote PTO Engine Speed:   1000   rpm
                     Light Load PTO % Fuel:    25   %
                 Maintenance Monitor Mode:    Automatic
                       OCM Distance Offset:    0   mi
                           OCM Time Offset:    0   hrs
                           OCM Fuel Offset:    0   gal
          Default Oil Change Monitor Distance:  0   mi
             Default Oil Change Monitor Time:   0   hrs
             Default Oil Change Monitor Fuel:   0   gal
          Maintenance Monitor Interval Factor: 0.00
           Maint. Monitor Distance Threshold:   0   mi
              Maint. Monitor Time Threshold:    0   hrs
            Maint. Monitor Alert Percentages:   0   %
              Maint. Monitor Fuel Threshold:    0   gal
                       Engine Time Offset:     0   hrs
                   Engine Distance Offset:     0   mi
                   Alternate Torque Enable:    Disabled
                      Alternate Droop/HSG:     Disabled
                 Alt Droop 2 Iso High Idle:     0   rpm
                    % Droop at Breakpoint 2:     0   %
             Alternate Droop 2 Min Throttle:     0   %
             Alternate Droop 2 Max Throttle:     0   %
                 Alt Droop 3 Iso High Idle:     0   rpm
                    % Droop at Breakpoint 3:     0   %
             Alternate Droop 3 Min Throttle:     0   %
             Alternate Droop 3 Max Throttle:     0   %
                     Accelerator Interlock:    Disabled
                     Vehicle Anti-Theft:      Disabled
```

                        CURRENT JOB IMAGE REPORT
            Cummins Engine Company INSITE Professional - CELECT Plus

Job Number: 0-010214-142536 (Image Number: 2)
Job Date: Wednesday, February 14, 2001
Vehicle Unit Number:
Customer:
Description:

                        Trip Information System

                    Total Fuel Used: 24860.8 gal
                    Total ECM Time: 6244.6   hrs
                 Total Engine Hours: 6244.6   hrs
                 Total ECM Distance: 113863.90 mi
              Total Engine Distance: 113863.90 mi
                ESP High Curve-Time: 0.0   hrs
                     Trip Fuel Used: 24860.8 gal
                     Trip Fuel Rate: 3.88 gph
                           Trip MPG: 255.996 mpg
                          Trip Time: 6244.6   hrs
                      Trip Distance: 113863.90 mi
           Trip ESP High Curve Time: 0.0   hrs
                   Trip ESP Distance: 0.00   mi
                    Trip Drive Fuel: 21099.8 gal
                     Trip Drive MPG: 5.395 mpg
                     Trip Idle Fuel: 1392.8 gal
                     Trip Idle Time: 958.2 hrs
                  Idle Percent Usage: 15.35 %
                      Trip PTO Fuel: 2368.0 gal
                      Trip PTO Time: 1589.3 hrs
                          Trip %PTO: 25.45 %
       Number of Sudden Decelerations: 47
         Brake Actuations/1000 miles: 576 per 1000 mi
              Trip % Distance in CC: 0.00 %
        Trip % Distance at Max Speed: 0.00 %
        Trip % Distance in Top Gear: 76.65 %
        Trip % Distance-Direct Drive: 12.36 %
          Trip % Distance-ESP Curve: 0.00 %

Detroit Diesel Engine Data Report

DETROIT DIESEL

CORPORATION

Engine Data Report

Detroit Diesel

Frequently Asked Questions about DDEC and Diagnostic Link

What are Data Pages?

Data Pages is memory in the DDEC III ECM that records operating information about the engine and the vehicle. It is an optional feature that is available for DDEC III ECMs. It was introduced in DDEC III software Release 5.0 (R5.0).

Data is stored in daily records for a maximum of 14 days. An internal clock/calendar, which must be reset each time the vehicle's batteries are disconnected, is used for timekeeping. Data on engine performance trends, service intervals, and ECM diagnostics is also stored.

How do I extract and report Data Pages data?

Data extraction and reporting is accomplished with DDEC Reports or ProManager 2.10 software. The Remote Data Interface (RDI) may also be used for data extraction.

How do I get Data Pages turned on?

Data Pages may be activated in DDEC III ECMs that have R5.0 or later software by reprogramming the ECM. There is a one-time nominal charge for this service.

What is DDEC Data?

DDEC Data is dedicated memory in the DDEC IV ECM that records operating information about the engine and the vehicle. It is a standard feature that is included in all DDEC IV ECMs. It was introduced in DDEC IV software R20 and was substantially upgraded in R21.

DDEC Data stores three monthly records and a trip file that may be reset after it is extracted from the ECM. An internal clock/calendar, with an internal battery, is used for timekeeping. Data on daily engine usage, periodic maintenance intervals, hard brake incidents, last stop records, and ECM diagnostics is also stored.

How much does DDEC Data cost?

There is no additional charge for DDEC Data, it is included as a standard part of DDEC IV.

How do I initialize DDEC Data so that it records data?

DDEC Data is initialized at the factory, so it's recording when you receive it. Data is being recorded with default settings that will be satisfactory for most customers. The settings can be customized using DDEC Reports software.

Can I turn the recording off?

APPENDICES

Appendix A - DDEC Compatibility Table

Table 1: DDEC System Software/Hardware Compatibility Table

Recording Product	DDEC Reports		ProDriver Reports		ProManager 1.02		ProManager 2.10		RDI Extractions	
	extracts data	produces reports	extracts data	produces reports	extracts data	produces reports	extracts data	produces reports	DOS	Win 95
DDEC III "Data Pages"	X	X					X	X	X	X
DDEC IV "DDEC Data"	X	X								X
ProDriver 2.0x	X			X	X	X			X	X
ProDriver 3.0x	X		X	X						X
Data Logger	X						X	X	X	X

Appendix B - Default Settings for DDEC Data

Fleet Time Zone:	Eastern Standard (GMT - 5 hours)
Hard Brake Limit:	7 MPH/Sec
Stop Idle Limit:	5 minutes
Idle Method:	vehicle speed sensor
DDR Reset lockout:	yes
Maintenance visual reminder:	yes
Maintenance visual reminder percent: 20%	
Vehicle speed bands (mph):	10, 20, 30, 40, 50, 55, 60, 66, 71
Engine speed bands (rpm):	700, 1000, 1200, 1300, 1400, 1500, 1600, 1700, 1800
Percent load bands:	10, 20, 30, 40, 50, 60, 70, 80, 90

Appendix C - ECM Software Version Compatibility

DDDL (DDEC Reports) version 2.0: loads configurations, extracts data and produces reports from DDEC IV Release 20 software. Loads configurations, extracts data and produces partial reports from DDEC IV Release 21 and later software. (It treats it as though it were the limited data set of Release 20).

DDDL (DDEC Reports) version 2.1 and 2.11: loads configurations, extracts data and produces reports from DDEC IV Release 20 and later software.

DDDL (DDEC Reports) version 3.0: loads configurations, extracts data and produces reports (including Off-Highway) from DDEC IV Release 20 and later software.

Appendix F - Types of Reports Available from DDEC Reports

DDEC Reports produces comprehensive trip reports for service technicians and fleet managers in On-Highway, Off-Highway, and Marine formats. These reports are listed in the tables below.
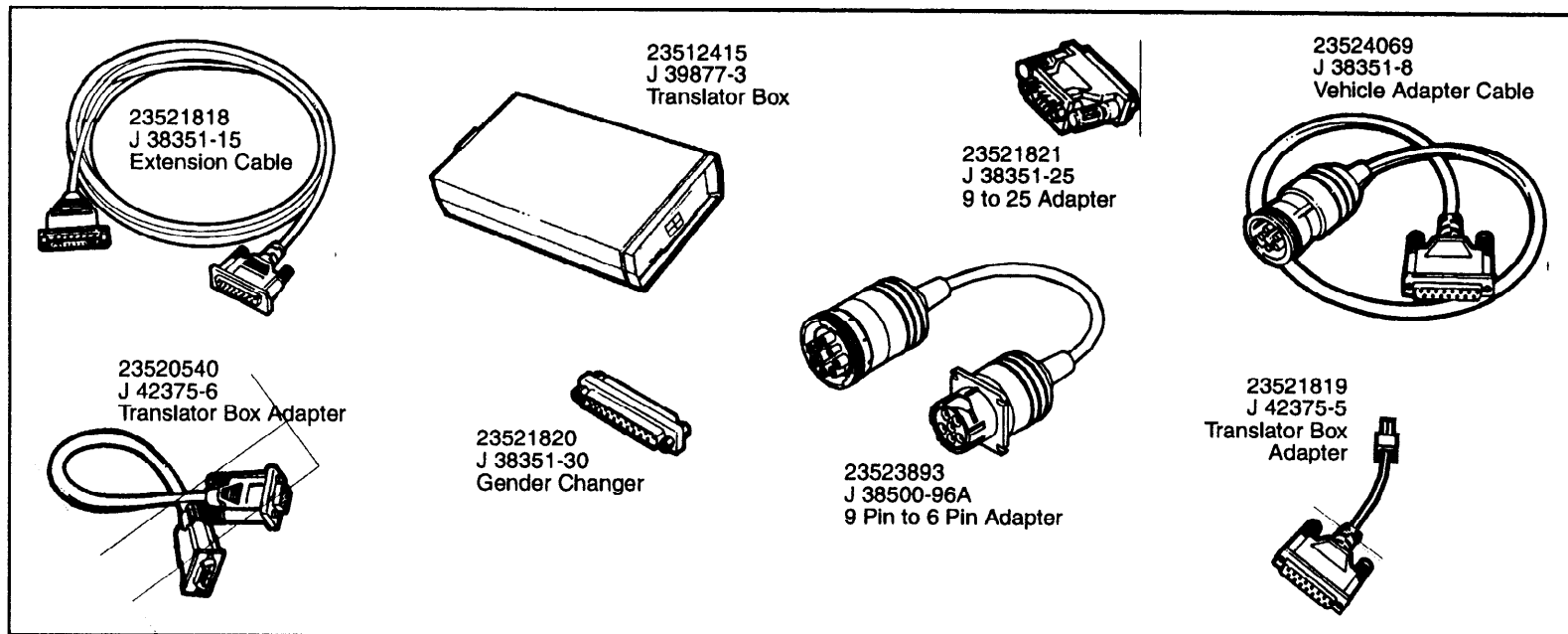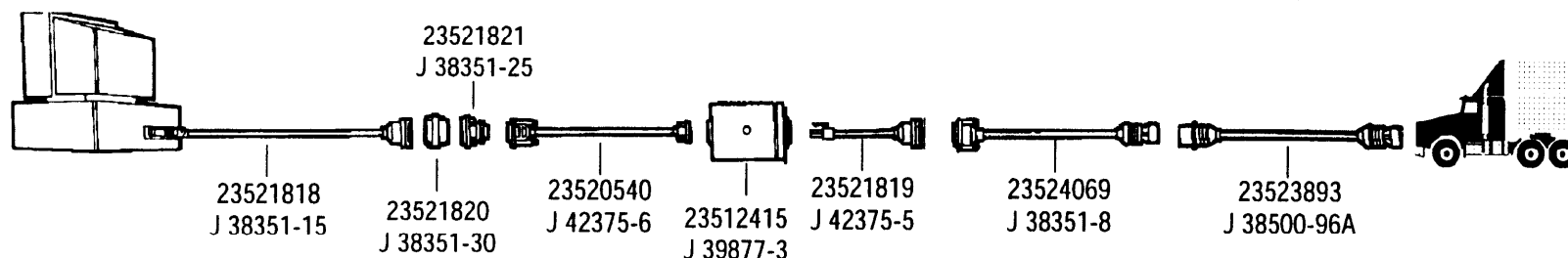
Table 2: On-Highway Reports available from DDEC Reports

Available Reports On-Highway	DDEC III Data Pages	DDEC IV		DDEC Reports version required
		R20	R21 or later	
Trip Activity	X	X	X	2.0 or later
Vehicle Speed/RPM	X	X	X	2.0 or later
Overspeed/Over Rev		X	X	2.0 or later
Engine Load/RPM		X	X	2.0 or later
Vehicle Configuration	X	X	X	2.0 or later
Periodic Maintenance	X		X	2.1 or later
Hard Brake Incident			X	2.1 or later
Last Stop			X	2.1 or later
DDEC Diagnostic			X	2.1 or later
Profile	X		X	2.1 or later
Monthly Activity			X	2.1 or later
Daily Engine Usage			X	2.1 or later
Life-to-Date	X		X	2.1 or later

Table 3: Off-Highway Reports available from DDEC Reports

Available Reports Off-Highway	DDEC III Data Pages	DDEC IV		DDEC Reports version required
		R20	R21 or later	
Period Activity		X	X	3.0
High RPM		X	X	3.0
Engine Load/RPM		X	X	3.0
Configuration		X	X	3.0
Periodic Maintenance			X	3.0
DDEC Diagnostic			X	3.0
Profile			X	3.0
Monthly Activity			X	3.0
Daily Engine Usage			X	3.0
Life-to-Date			X	3.0

DIAGNOSTIC LINK CABLE HOOK-UP DIAGRAM

23521818
J 38351-15
Extension Cable

23512415
J 39877-3
Translator Box

23524069
J 38351-8
Vehicle Adapter Cable

23521821
J 38351-25
9 to 25 Adapter

23520540
J 42375-6
Translator Box Adapter

23521820
J 38351-30
Gender Changer

23523893
J 38500-96A
9 Pin to 6 Pin Adapter

23521819
J 42375-5
Translator Box
Adapter

TYPICAL DESKTOP PC CONNECTION (25-PIN SERIAL PORT)

23521821
J 38351-25

23521818
J 38351-15

23521820
J 38351-30

23520540
J 42375-6

23512415
J 39877-3

23521819
J 42375-5

23524069
J 38351-8

23523893
J 38500-96A

TYPICAL LAPTOP PC CONNECTION (9-PIN SERIAL PORT)

23520540
J 42375-6

23512415
J 39877-3

23521819
J 42375-5

23521818
J 38351-15

23524069
J 38351-8

23523893
J 38500-96A
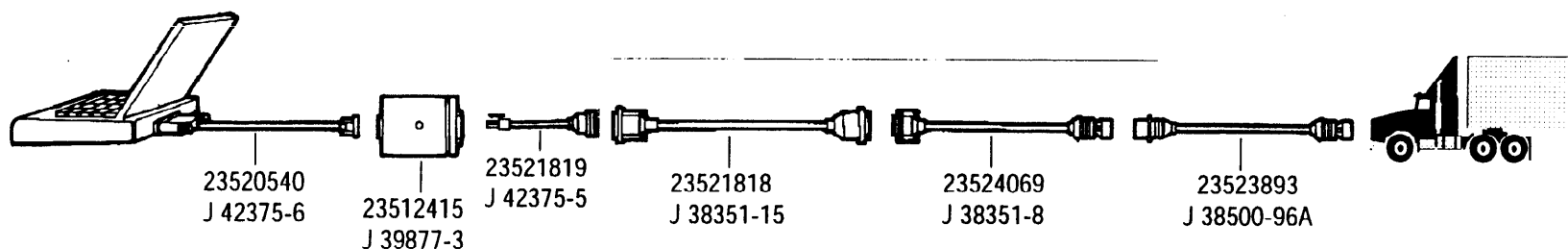
Additional cables can be purchased separately to extend connections if needed

DDC Part Numbers begin with 235 ...   **Kent-Moore Part Numbers begin with J ...**

International Engine Data Report

Engine Data Report

NAVPAK™ ENGINE CONTROL
PROGRAMMABLE PARAMETERS

Section 9 — Parameter Descriptions

Programmable parameters are grouped according to control system feature. Features are listed in alphabetical order. An index is also provided for help in locating parameters.

Since interactions exist between certain control system features, text is provided at the end of each section to clarify what parameters not belonging to the given feature must be considered when programming parameters belonging to the given feature. Refer to the text in each section preceded by the heading: "Other parameters which must be considered when programming this feature:"

FEATURE NAME: ACCUMULATORS

TOTAL-FUEL (gallons)
Records total fuel usage since installation of this ECM.

ENGINE-HOURS (hours)
Records total engine on time since installation of this ECM. "On" time is defined as any time the engine is running.

TOTAL-MILES (miles)
Records total distance traveled since installation of this ECM.

Other parameters which must be considered when programming this feature:
None

FEATURE NAME: COLD AMBIENT PROTECTION

COLD AMBIENT PROTECT ENABLE
Enable/Disable of Cold Ambient Protection Feature

- 0: DISABLE, feature is turned off at all times.

- 1: ENABLE, feature is enabled and may be activated by the ECM when activation criteria are met.

Cold ambient protection permits the engine to idle at an elevated RPM when certain operating temperature conditions are met. For more information, refer to NAVISTAR publications listed in the reference section of this document.

Other parameters which must be considered when programming this feature:

IDLE SHUTDOWN MODE (Idle Shutdown Control Feature): If this parameter is programmed to enable the IST feature, CAP CANNOT be enabled. This is because the functionality of these two features conflicts.

PTO-CONTROL ON/OFF (Power Take Off Control Feature): CAP is disabled anytime PTO Control is operating in "Active" mode.

ENG-PROT-MODE (Engine Warning and Protection Control Feature): Disables CAP when coolant level is detected to be low.

TRANS_MODE (Transmission Type Feature): If this parameter is programmed to indicate a manual or Allison WT transmission, then the maximum engine speed achievable by CAP is limited to CAP_N_NLMX (parameter not yet available in Navistar EERS database). If TRANS_MODE is programmed to indicate an Allison AT/MT transmission, the maximum engine speed achievable by the CAP feature is limited by the engine control software to a non-programmable parameter value.

Miscellaneous   **CT-471** September, 1997   **Miscellaneous**

NAVPAK™ ENGINE CONTROL
PROGRAMMABLE PARAMETERS

Other parameters which must be considered when programming this feature:

RETARDER-SERVICE-BRAKE-INTERFACE (Vehicle Retarder Feature): The Vehicle Retarder Feature should be enabled via this parameter if COOL-FAN ENABLE is programmed to a "2".

RAD-SHUT-ENABLE (Radiator Shutter Control): This parameter indicates to the ECM that the position of the radiator shutter is controlled by the ECM. This parameter must be properly programmed to ensure that the radiator shutters are opened when required to achieve engine cooling by the Engine Cooling Fan feature.

FEATURE NAME: ENGINE SERIAL NUMBER

ENG-SERIAL-NO
Engine Serial Number

Specifies the 17 alphanumeric characters that make up the engine serial number for the engine in this vehicle.

Other parameters which must be considered when programming this feature:
None

FEATURE NAME: EVENT LOGGING

EL-OVERSPEED-1 (hours)
Log of engine hour meter for either the last occurrence of an engine overspeed event, or the next to last occurrence of an engine overspeed event.

EL-OVERSPEED-2 (hours)
Log of engine hour meter for either the last occurrence of an engine overspeed event, or the next to last occurrence of an engine overspeed event.

EL-LOWOILP-1 (hours)
Log of engine hour meter for either the last occurrence of low oil pressure detected, or the next to last occurrence of low oil pressure detected.

EL-LOWOILP-2 (hours)
Log of engine hour meter for either the last occurrence of low oil pressure detected, or the next to last occurrence of low oil pressure detected.

EL-OVERHEAT-1 (hours)
Log of engine hour meter for either the last occurrence of engine overheat condition detected, or the next to last occurrence of engine overheat condition detected.

EL-OVERHEAT-2 (hours)
Log of engine hour meter for either the last occurrence of engine overheat condition detected, or the next to last occurrence of engine overheat condition detected.

EL-LOWCOOL-1 (hours)
Log of engine hour meter for either the last occurrence of low coolant level detected, or the next to last occurrence of low coolant level detected.

NAVPAK™ ENGINE CONTROL
PROGRAMMABLE PARAMETERS

MAX-ENGINE SPEED (NO VSSN) (rpm)
Engine speed will be limited to this value when a vehicle speed sensor fault is present and the Road Speed Limiting feature is enabled.

VEHICLE SPEED LIMIT (mph)
Maximum vehicle speed is limited to this value when VEH-ROAD-SPD-GOV is "1" (Road Speed Limiting is enabled).

Other parameters which must be considered when programming this feature:
1) **MAXIMUM CRUISE CONTROL SPEED (Cruise Control):** In order to encourage use of cruise control for best fuel economy, the MAXIMUM CRUISE CONTROL SPEED should not be programmed to be less than the value programmed for VEHICLE SPEED LIMIT in the Road Speed Limiting feature.

FEATURE NAME: SERVICE INTERVAL

SERVICE-INT-ENABLE
Enable/disable operation of SERVICE INTERVAL feature.

- 0: DISABLE, feature is turned off at all times.
- 1: ENABLE, feature is turned on, ECM monitors accumulation of specified parameter(s) (distance in miles, operating time in hours, and/or fuel used in gallons), and activates a CHANGE OIL LAMP when the specified interval(s) is reached.

SI-FUEL-INTERVAL (gallons)
Fuel used interval at which the ECM will activate the CHANGE OIL LAMP. Setting SI-FUEL-INTERVAL = 0 will disable the FUEL INTERVAL portion of the feature.

SI-HOUR-INTERVAL (hours)
Engine operating hours interval at which the ECM will activate the CHANGE OIL LAMP. Setting SI-HOUR-INTERVAL = 0 will disable the HOUR INTERVAL portion of the feature.

SI-DIST-INTERVAL (miles)
Vehicle miles interval at which the ECM will activate the CHANGE OIL LAMP. Setting SI-DIST-INTERVAL = 0 will disable the DISTANCE INTERVAL portion of the feature.

SI-FUEL-START (gallons)
Accumulated total engine fuel (obtained from ECM ACCUMULATORS) used to reset SERVICE INTERVAL feature. This value is used by the ECM to calculate interval status by comparison with current accumulator value.

SI-HOUR-START (hours)
Accumulated total engine hours (obtained from ECM ACCUMULATORS) used to reset SERVICE INTERVAL feature. This value is used by the ECM to calculate interval status by comparison with current accumulator value.

SI-DIST-START (miles)
Accumulated total vehicle miles (obtained from ECM ACCUMULATORS) used to reset SERVICE INTERVAL feature. This value is used by the ECM to calculate interval status by comparison with current accumulator value.

Miscellaneous   **CT-471**   September, 1997   **Miscellaneous**

NAVPAK™ ENGINE CONTROL
PROGRAMMABLE PARAMETERS

Other parameters which must be considered when programming this feature:
None

FEATURE NAME: PROGRAMMING TRACE

LAST-SERVICE-TOOL1
Logs identification of last service tool used to modify a programmable parameter.

LAST-SERVICE-TOOL2
Logs most recent date when a customer service tool was used to modify a programmable parameter.

LAST-TOOL-CALIB
Identifies identification of programming tool last used to modify engine calibration data. Also indicates locations of calibration parameters modified by the service tool.

LAST-TOOL-CAL-DATE
Date when factory programming tool last downloaded calibration data.

LAST-TOOL-STRATEGY
Identifies factory programming tool last used to modify the engine control software. Also indicates memory locations modified in the control system software.

LAST-TOOL-STR-DATE
Logs most recent date when a programming tool downloaded control system software to the ECM.

Other parameters which must be considered when programming this feature:
None

FEATURE NAME: READ-ECM-FAULTS

READ-ECM-FAULTS
Query ECM memory for fault codes.

Other parameters which must be considered when programming this feature:
None

FEATURE NAME: SOFTWARE PARAMETER AUDITS

PP LIST CHECKSUM
Used by ECM to validate integrity of values programmed into memory by factory and/or customer.

S/W CALIBRATION CHECKSUM
Used by ECM to validate integrity of calibration data programmed into memory.

S/W STRATEGY CHECKSUM
Used by ECM to validate integrity of software instructions programmed into memory.

NAVPAK™ ENGINE CONTROL
PROGRAMMABLE PARAMETERS

FEATURE NAME: CLEAR-ECM-FAULTS

CLEAR-ECM-FAULTS
Command ECM to clear fault codes.

Other parameters which must be considered when programming this feature:
None

FEATURE NAME: ECM-SELF-TEST

ECM-SELF-TEST
Command ECM to perform diagnostic self-test.

Other parameters which must be considered when programming this feature:
None

FEATURE NAME: ECM COMPATIBILITY DATA

PP LIST LEVEL
Indicates what powertrain control features are configured for this vehicle.

Other parameters which must be considered when programming this feature:
None

FEATURE NAME: ECM MANUFACTURING DATA

MANUFACTURING DATE
Specifies manufacturing date of this ECM.

The year, month, day, and hour of manufacture is displayed. Each of the separate fields uses two numbers. For example, the display "97013018" means this ECM was manufactured on January 30, 1997 at 6 PM.

SERIAL-NO-CEC
ECM serial number.

H/W VERSION
ECM Hardware level.

S/W STRATEGY VERSION
Level of software functionality programmed into this ECM.

S/W CALIBRATION VERSION
Calibration level programmed into this ECM.

In general, calibration refers to the set of parameters used by the control system that are not programmable by the customer or by the factory (i.e. control system gains, out-of-range thresholds, ramp rates, etc,).

Miscellaneous   **CT-471**   September, 1997   **Miscellaneous**

NAVPAK™ ENGINE CONTROL PROGRAMMABLE PARAMETERS

Table 8.1 — Parameter Attributes Table. Information generated directly from the Navistar EERS System
(Navistar EMR Report, Location Melrose Park, Rules Effective August, 1997)

Supplier Name	EERS Parameter Name	Type[1]	Units	Lower Limit	Upper Limit	Increment
82001	TRANSMISSION-TYPE	F	N/A	0	4	1
82011	ENG-FAM-RATING-CD	F	N/A	0000	FFFF	1
82021	ENG-LOW-IDLE-SPEED	F	RPM	600	875	1
82031	ENG-HI-IDLE-SPEED	F	RPM	Accept Val		1
82041	ENG-RATED-SPEED	F	RPM	1600	2800	1
82051	ENG-RATED-HP	F	BHP	135	350	1
83001	TOTAL-FUEL	F	GALLONS	0	536,870,911.875	.125
83011	ENGINE-HOURS	F	HOURS	0	214,748,364.75	.1
83021	TOTAL-MILES	F	MILES	0	429,496,729.5	.1
84001	EL-OVERSPEED-1	F	HOURS		214,748,364.75	.05
84011	EL-OVERSPEED-2	F	HOURS		214,748,364.75	.05
84021	EL-LOWOILPRS-1	F	HOURS		214,748,364.75	.05
84031	EL-LOWOILPRS-2	F	HOURS		214,748,364.75	.05
84041	EL-OVERHEAT-1	F	HOURS		214,748,364.75	.05
84051	EL-OVERHEAT-2	F	HOURS		214,748,364.75	.05
84061	EL-LOWCOOL-1	F	HOURS		214,748,364.75	.05
84071	EL-LOWCOOL-2	F	HOURS		214,748,364.75	.05
84081	EL-OVERSPEED-MI1	F	MILES		429,496,729.5	.1
84091	EL-OVERSPEED-MI2	F	MILES		429,496,729.5	.1
84101	EL-LOWOILP-MI1	F	MILES		429,496,729.5	.1
84113	EL-LOWOILP-MI2	F	MILES		429,496,729.5	.1
84121	EL-OVERHEAT-MI1	F	MILES		429,496,729.5	.1
84131	EL-OVERHEAT-MI2	F	MILES		429,496,729.5	.1
84141	EL-LOWCOOL-MI1	F	MILES		429,496,729.5	.1
84151	EL-LOWCOOL-MI2	F	MILES		429,496,729.5	.1
85001	VEHICLE-IDENT	F	N/A			1
87002	CUSTOMER PASSWORD	W	N/A	Accept Val		1
88001	ENG-SERIAL-NO	F	N/A			1

NOTE: [1]   W:EST Write Only Parameter
      B: EST Customer Programmable Parameter (Both EST Read and EST Write Parameter)
      F: Factory Programmable Parameters (non-EST programmable).
Information shown in BOLD indicates modification from the EERS database.

The Benefits of Vehicle Mounted Video Recording Systems, Evicam International, Inc.

evicam™

The Benefits of Vehicle Mounted Video Recording Systems

By R. Jeffery Scaman, CEO

EVICAM INTERNATIONAL, INC.

1.1 INTRODUCTION

Evicam International Inc. was formed to develop advanced Video Event Data Recorders for the Transportation and Insurance Industries. We have joined the National Highway Traffic Safety Administration's Working Group on Event Data Recorders to gather information and to learn from others involved in this same area of technology. We would also like to add our thoughts and ideas for discussion, which we hope will contribute to the advancement of Event Data Recorders in the coming years. We look forward to working with the National Highway Traffic Safety Administration, Automotive Manufacturers and other EDR companies in determining the most efficient methods of utilizing this technology for social and economic benefits, while protecting the integrity of the recorded data, and the privacy of those who choose to use it.

1.2 BACKGROUND

Event Data Recorders have been introduced in vehicles over the last decade in varying forms. Manufacturers have begun installing EDR's for air bag deployment and data analysis, to be used in designing more efficient safety systems in the future. Recently, the concept of Video Event Data Recorders has been introduced. We believe that this new technology, deploying cameras to capture events surrounding a vehicular accident, will provide detailed evidence never before available. Video Event Recorders will allow faster, more accurate and more detailed investigations, which will in turn save time, money and resources.

1.3 BENEFITS OF VIDEO EVENT DATA RECORDERS

There are both social and economic benefits to be achieved by deploying EDR's. The social impact of Event Data Recorders will be fewer accidents, safer vehicles and highways, less injuries and the potential to save many lives each year. Research has shown that vehicles equipped with non-video EDR's have lower accident rates, less severe accidents and better driver behavior. We believe that Video Event Data Recorders will have a similar or superior effect.

The potential economic benefits of EDR's will be very substantial also. Insurance Companies and their policyholders will see lower costs of insurance due to the use of EDR's. These saving will be realized as a result of a reduction in insurance fraud, streamlined accident investigations, and increased efficiency in settling claims.

A number of potential benefits include:

- Lower accident rates
- More efficient and accurate accident investigations
- More detailed data available for analysis
- Safer driver behavior

- Decrease in injury and death rates
- First hand physical evidence of accident circumstances
- A reduction in "road rage" due to accountability
- A reduction in the cost of insurance
- Protection of innocent drivers' deductibles and driving records
- Higher quality customer service for policyholders and claimants
- Concrete evidence to fight fraudulent claims
- A deterrent to accident fraud, due to increased risk of prosecution
- Video evidence of hit and run incidents
- Use of accident videos for educational/training purposes
- Lower expenses for Special Investigation Units
- Fewer court cases resulting from car accidents
- Increase in efficiency of insurance company and fleet operations

1.4 OTHER CONSIDERATIONS

As discussed in earlier Working Group sessions, one of the primary drawbacks to EDR's is the use of the data that is recorded and the privacy of those drivers who choose to utilize it. If EDR's are to be widely accepted, the data that is recorded must be securely stored, accessed ONLY by authorized personnel, and protected from abuse. If drivers believe that the EDR in their own vehicle may be used against them, there will be apprehension in the use of this technology. In using EDR's, the main incentive for fleets and individuals is a financial incentive. We believe that Insurance Companies, Law Enforcement and Fleet Mangers should have access to EDR data for investigative and civil uses only, i.e. determining who pays an insurance claim and receives a citation. Only under extreme circumstances should the data be released for other than insurance and civil liability purposes. It will take cooperation on the part of Lawmakers, Automotive Manufacturers and EDR Manufacturer's, if this technology is to be widely deployed and utilized to its fullest potential.

1.5 EVICAM TECHNOLOGY

Evicam International, Inc. is developing two core technologies relating to Video Event Data Recorders. We have named two of our products "**EVICAM**" and "**EVISCAN**".

The **EVICAM,** or "evidence camera" is a completely secure, multi-camera, digital video recording system designed to operate as a vehicular accident capture system. The technical name of this product is the Secure, Vehicle Mounted, Incident Recording System. This device will capture the minutes leading up to, including and following a crash. The data is securely stored in a safe box until such time it can be transmitted offsite or downloaded by authorized personnel using access codes. It will provide accident investigators and insurance companies with a secure, permanent record of the events surrounding a crash for evidentiary purposes, while allowing very limited access to the data and protecting the privacy of those concerned.